FloodProBE

Pilot Site: Rotterdam

FACT SHEET

The FloodProBE Rotterdam Pilot Site summary:

Rotterdam-The Hague Airport is transformed to be the world's first Emergency Airport as a part of the Multi Level Safety approach in the Netherlands. Secondary prevention and preparedness measures are part of an integrated plan.

The document is intended for:

- Flood defence experts
- City planners
- Emergency planners

Where to find the document:

- www.floodprobe.eu

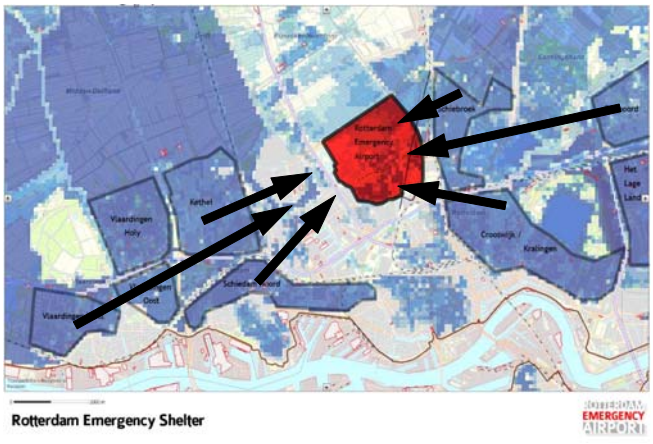

Figure 1 – Rotterdam Emergency Shelter

In Brief

Rotterdam-The Hague Emergency Airport is part of a plan to set up shelters in de vulnerable and populated west of the Netherlands. Next to the shelter function, REA can be the base of emergency response units in case of a flood scenario in the Rotterdam-Rijnmond area. This ambition fits in the national Multi Level Safety three-tier approach to flood risk management.

The challenges are related to the transformation of the existing area into an 'Emergency Airport Shelter'. This concept is supported by a broad group of public and private stakeholders, among them the Rotterdam-Rijnmond Safety Authority. The goal is to assess, upgrade and add (temporary) flood defences to prevent a flood of REA whilst the Rotterdam-Rijnmond area is flooded.

- **Assessing**: What is the likelihood of flooding of the airport area in case of a major flood defence breach? How do existing secondary flood defences, highway and railway embankments function as temporary flood defences?
- **Upgrading**: How can existing secondary flood defences and highway and railway embankments be transformed to meet (new) flood standard requirements?
- **Adding**: Which potential design solutions are suitable to close the temporary secondary compartment protecting REA in case of a major flood in west Netherlands?

Goals/strategies/tools to be applied

The following G/S/T are being applied within the FloodProBE Rotterdam pilot:

- Method and tools for assessing safety of the REA area within dike ring 14 and its flood defences. Dominant failure mechanisms of the defences are part of this, as well as the flood simulation after breach in Rotterdam Rijnmond area.

Figure 2 – Inventory of probable flood defences

- Design guidance for temporary flood defences. Temporary flood defences have to function for a relatively short time in case of a breach in the primary system.
- Technologies and design guidance for temporary flood defences in the created secondary compartment dyke ring.
- Technologies and design guidance for smart shelters.
- Technologies and design guidance for resilient critical infrastructures and hotspot buildings.

Figure 3 – Airport terminal

The FloodProBE Project

FloodProBE is a European research project with the objective of providing cost-effective solutions for flood risk reduction in urban areas. FloodProBE aims to develop technologies, methods and tools for flood risk assessment and for the practical adaptation of new and existing buildings, infrastructure and flood defences leading to a better understanding of vulnerability, flood resilience and defence performance. This research supports implementation of the Floods Directive through the development of more effective flood risk management strategies.

Email: info@floodprobe.eu
Website: www.floodprobe.eu